

WHAT IS CLAIMED

1. A radio communication method of  
communication between two radio stations,  
5 comprising:

mutually exchanging information between  
said two radio stations about one or more radio  
communication methods with which each radio station  
is equipped as software by communicating according  
10 to a first radio communication method defined  
beforehand;

selecting a second radio communication  
method suitable as a communication application to  
be used for communication between said two radio  
15 stations from among the one or more radio  
communication methods with which at least one of  
the two radio stations is equipped based on the  
information about the one or more radio  
communication methods with which each radio station  
20 is equipped;

transmitting software of the second  
radio communication method from a radio station  
equipped with the second radio communication method  
to a radio station which is not equipped with the  
25 second radio communication method according to said  
first radio communication method, when only one of  
said radio stations is equipped with the second  
radio communication method; and

conducting communications between said  
30 two radio stations by the communication application  
according to said second radio communication method  
based on said software.

2. The radio communication method as  
claimed in claim 1, comprising selecting a radio  
communication method that satisfies communication  
quality required by said communication application  
5 as the second radio communication method.

3. The radio communication method as  
claimed in claim 1 or 2, comprising:

10 checking whether both of the radio  
stations are equipped with said second radio  
communication method or only one of a radio station  
of a local site and a radio station to communicate  
with is equipped with said second radio  
communication method; and  
15 transmitting the software of said second  
radio communication method from the radio station  
of a local site to the radio station to communicate  
with when the radio station of a local site  
determines that only the radio station of a local  
20 site is equipped with said second radio  
communication method.

4. The radio communication method as  
claimed in claim 3, wherein the radio station of a  
25 local site acquires the software of said second  
radio communication method transmitted from the  
radio station to communicate with when the radio  
station of a local site determines that only the  
radio station to communicate with is equipped with  
30 said second radio communication method.

5. The radio communication method as  
claimed in claim 3 or 4, wherein the radio station

of a local site performs communications by said communication application according to the second radio communication method based on the software installed in the radio station of a local site when 5 the radio station of a local site determines that the second radio communication method is provided in both the radio stations.

6. A radio station that communicates  
10 with another radio station by a communication application according to a radio communication method by controlling radio communication means that comprises hardware that is independent of radio communication methods, comprising:  
15                 memory means to store one or more sets of software of radio communication methods;  
                       information exchange control means to mutually exchange information about a radio communication method installed as software by  
20 communicating according to said first radio communication method defined beforehand;  
                       radio communication method selection means to determine a radio communication method suitable for said communication application from  
25 radio communication methods available in at least one of the radio station and said another radio station as the second radio communication method based on said information about the radio communication methods available at the radio station and said another radio station;  
30                 checking means to check whether said second radio communication method is installed in both the radio station and the other radio station

or only one of the radio station and the other radio station; and

software transmitting control means to read the software of said second radio

5 communication method from said memory means and transmit the same to said another radio station by said first radio communication method when the radio station determines that said second radio communication method is installed only at the radio

10 station in said checking means,

wherein communication with the other radio station by said communication application according to said second radio communication method is conducted by controlling said radio

15 communication means based on the software of said second radio communication method after transmission of the software of said second radio communication method to the other radio station by said software transmission control means.

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7. The radio station as claimed in claim 6, comprising software acquisition control means to acquire software of said second radio communication method transmitted from the other radio station 25 when said checking step determined that said second radio communication method is equipped only with the other radio station, and to store the same into said memory means.

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8. The radio station as claimed in claim 6 or 7, comprising controlling said radio communication means based on said software by reading the software of said second radio

communication method from said memory means when said second radio communication method is determined available in both the radio station and the other radio station by said checking means.

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9. The radio station as claimed in any one of claims 6 through 8, wherein said radio communication method selection means selects a radio communication method that will satisfy the communication quality that said communication application requires as the second radio communication method suitable for the communication application concerned.

15                   10. The radio station as claimed in any  
one of claims 6 through 9, which is used as a  
mobile station or a base station in a mobile  
communications system.

20                   11. The radio station as claimed in any  
one of claims 6 through 9, which is used as a  
mobile station in a mobile ad hoc communication  
system.

25                   12. A mobile communication system,  
comprising two or more radio stations as claimed in  
any one of claims 1 through 9, each of which  
functions as one of a mobile station, a relay  
station, and a base station.

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